

Claims

1. A method of determining quality of service of a network session between a calling device and a called device that convey information over at least two independent IP networks, said method comprising:

 sending a message from the calling device to a first IP network of said at least two independent IP networks, said message including a desired quality parameter and an accumulated delay parameter,

 receiving the message at the first network,

 modifying the accumulated delay parameter with a first delay between the calling device and the first network,

 sending the message to a second IP network of said at least two independent networks,

 secondly modifying the accumulated delay parameter with a second delay between the first and second IP networks,

 sending the message to the called device,

 thirdly modifying the accumulated delay parameter with a third delay between the second IP network and the called device, and

 determining, based on values of the accumulated delay parameter and the desired quality parameter, whether quality of service is met for said network session.

2. The method of claim 1, wherein said desired quality parameter comprises a maximum delay requested between the calling and called devices.

3. The method of claim 2, further including:

 proceeding with the call if call quality is met or querying the caller whether to proceed with the call.

4. The method of claim 3, wherein the calling device and the called device comprise an SIP telephony device, the network session ensues according to a VoIP protocol, and said

querying is performed at that calling device by prompting a caller whether to proceed with the call.

5. The method of claim 3, wherein said network session comprises a multimedia session.

6. The method of claim 3, wherein said message comprises an SIP INVITE packet, and said maximum delay and accumulated delay parameters are embodied in the body of the SIP packet.

7. The method of claim 6, further comprising generating an ACK packet from information contained in said SIP INVITE packet, said ACK packet including said desired quality parameter, accumulated delay parameter, and an Indicator indicative of whether the accumulated delay exceeds maximum delay parameter.

8. The method of claim 7, wherein a gateway is interposed between said first and second IP networks, and in said secondly modifying step, said delay indicates time delay between said first and second networks through said gateway.

9. The method of claim 7, wherein an interexchange network is interposed between said first and second IP networks, and in said secondly modifying step, said delay indicates time delay between said first and second networks through said interexchange network.

10. An apparatus to determine quality of service of a network session between a calling device and a called device that exchange information between at least two independent IP networks, said apparatus comprising:

 a calling SIP device that generates and sends a message to a first IP network of said at least two independent networks, said message including a desired quality parameter and an accumulated delay parameter,

said first IP network having an associated processor configured to firstly modify the accumulated delay parameter of said message with a first delay between the calling SIP device and the first IP network, said first IP network sending the message to a second IP network of said at least two independent networks,

said second IP network having an associated processor configured to secondly modify the accumulated delay parameter of the message with a second delay between the first and second IP networks,

a called device that receives the message from the second IP network and that thirdly modifies the accumulated delay parameter of the message with a third delay between the second IP network and said called device, and

a routine that determines, based on values of the thirdly modified accumulated delay parameter and the desired quality parameter of the message, whether quality of service is met for said anticipated network session.

11. The apparatus of claim 10, wherein said desired quality parameter comprises a maximum delay requested between the calling and called devices.

12. The apparatus of claim 11 wherein said routines enables the calling device to proceed with the call if call quality is met.

13. The apparatus of claim 12 wherein said routines enable the calling device to query the caller whether to proceed with the call if call quality is not met.

14. The apparatus of claim 13 wherein each of the calling device and the called device comprises an SIP telephony device, the anticipated network session occurs according to a VoIP protocol, and said querying is performed at that calling device by prompting a caller whether to proceed with the call.

15. The apparatus of claim 10, wherein said network session comprises a multimedia session.

16. The apparatus of claim 10, wherein said message comprises an SIP INVITE packet and said maxium delay and accumulated delay parameters are embodied in the body of the SIP packet.

17. The apparatus of claim 16, wherein said called device generates an ACK packet from information contained in said SIP INVITE packet, and said ACK packet includes said desire quality parameter, an accumulated delay parameter, and an Indicator indicative of whether the accumulated delay exceeds maximum delay parameter.

18. The apparatus of claim 17, wherein a gateway is interposed between said first and second IP networks, and the second network modifies the accumlated delay parameter to indicate time delay between the first and second networks through said gateway.

19. The apparatus of claim 17, wherein an interexchange network is interposed between said first and second IP networks, and the second network modifies the accumulated delay parameter to indicate time delay between said first and second networks through said interexchange network.

20. The apparatus of claim 10 wherein said routine is located at one of the called and calling devices to perform said testing.